U.S. Department of Agriculture
Forest Service
333 SW 1st Avenue, P.O. Box 3623
Portland, OR 97208

U.S. Department of the Interior
Bureau of Land Management
333 SW 1st Avenue, P.O. Box 2965
Portland, OR 97208

January 2004

Final Supplemental Environmental Impact Statement

MANAGEMENT OF PORT-ORFORD-CEDAR IN SOUTHWEST OREGON

Coos Bay, Medford, and Roseburg Bureau of Land Management Districts and the Siskiyou National Forest in Southwest Oregon

MANAGEMENT OF PORT-ORFORD-CEDAR IN SOUTHWEST OREGON

Final Supplemental Environmental Impact Statement

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Oregon State Office
333 S.W. First Avenue
P.O. Box 2965
Portland, Oregon 97208

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

PRIORITY MAIL
POSTAGE & FEES PAID
Bureau of Land Management
Permit No. G-76

As the Nation's principle conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to assure that their development is in the best interest of all our people. The Department also has a major responsibility for American Indian reservation communities and for people who live in Island Territories under U.S. Administration.

BLM/OR/WA/PL-04/005-1792

U.S. Department of Agriculture
Forest Service
333 SW 1st Avenue, P.O. Box 3623
Portland, OR 97208

U.S. Department of the Interior
Bureau of Land Management
333 SW 1st Avenue, P.O. Box 2965
Portland, OR 97208

January 2004

Final Supplemental Environmental Impact Statement

Management of Port-Orford-Cedar in Southwest Oregon

Coos Bay, Medford, and Roseburg Bureau of Land Management Districts and the Siskiyou National Forest in Southwest Oregon

Lead Agencies: Bureau of Land Management – U.S. Department of the Interior
Siskiyou National Forest – U.S. Department of Agriculture

Cooperating Agency: Forest Service Region 5, U.S. Department of Agriculture

Information Contact: Ken Denton, Port-Orford-cedar SEIS Team
P.O. Box 2965, Portland, OR 97208
503-326-2368
e-mail: ORPOCEIS@or.blm.gov

We approve publication of this final supplemental environmental impact statement and the identification of Alternative 2 as the Bureau of Land Management proposed resource management plan amendment and Forest Service preferred alternative.

Elaine M. Brong
State Director
BLM Oregon/Washington

Scott Conroy
Forest Supervisor
Rogue River and Siskiyou National Forests

United States Department of Agriculture	**Forest Service**	**R-6**	**OR/ WA**	**Bureau of Land Management**	**United States Department of Interior**

Reply Refer To: 3400 (FS)/5820 (BLM) (OR-935) **Date: January 9, 2003**

Dear Interested Party:

In accordance with the "Federal Land Policy and Management Act," the "National Forest Management Act," and the "National Environmental Policy Act", the Bureau and Land management and the Forest Service (Siskiyou National Forest) have prepared the attached Final Supplemental Environmental Impact Statement (SEIS) for Management of Port-Orford-Cedar in Southwest Oregon. The final SEIS supplements the environmental impact statements for the resource management plans (Plans) of the Coos Bay, Medford, and Roseburg BLM Districts and the land and resource management plan (Plan) for the Siskiyou National Forest. Alternative 2, as modified from the draft SEIS and described in the final SEIS, is the Forest Service Preferred Alternative for amending the Siskiyou National Forest Plan, and the BLM Proposed Plan Amendment for the three BLM District Plans.

The draft SEIS was made available for 90-day public comment period June 13 through September 12, 2003. Four comments were received in the month and a half after September 12, for a total of 49 letters; all were included in the SEIS. The four letters from governments or agencies are shown in their entirety in Appendix 11. Over 600 substantive comments were identified in the 49 letters. These comments were often rephrased for clarity or combination of like comments, and are presented in Appendix 10 along with the Agencies' responses. The Interdisciplinary Team found the bulk of these comment letters to be informative and well thought-out, supplying additional information or pointing out deficiencies in the original analysis. The Team sincerely appreciates the many hours various members of the public obviously spent studying the draft in detail. A summary of major changes made between draft and final SEIS appears at the start of each chapter. The Agencies hope each commenter finds the SEIS appropriately improved as a result of their efforts.

Additional copies of the Final SEIS can be obtained from the Interdisciplinary Team at the "information contact" listed on the cover page, or on the web at http://www.or.blm.gov/planning/port-orford-cedar_seis/

Forest Service Appeal Procedures

Unlike the BLM, the Forest Service appeal procedures run for 30 days following issuance of the Forest Servce record of decision. A detailed description of those procedures will be included in the Forest Service record of decision when it is issued in early 2004.

Bureau of Land Management Proposed Resource Management Plan Amendment Protest Procedures

Alternative 2, without any of the additional mitigation measures presented on Table 2-6, is the BLM Proposed Resource Management Plan Amendment. Alternative 2 would establish standards and guidelines to be followed by the Districts on all projects (as applicable), and a methodology for clarifying environmental conditions that require implementation of site-specific practices. Project proposals in or directly affecting the currently uninfested 163 7th field (1,700 to 6,000 acre) watersheds would automatically be considered for application of the management practices, if the proposed activity would pose a significant risk of infecting Port-Orford-cedar in the watershed. The Alternative is completely described in Chapter 2 of the attached final SEIS.

You now have the opportunity to protest the Proposed Resource Management Plan Amendment described here and in the Final SEIS. The BLM Planning Regulations, 43 CFR 1610.5-2, state that any person who participated in the planning process and has an interest which may be adversely affected may protest the proposed planning decision(s). A protest may raise only those issues that were submitted for the record during the planning process. Protests must be filed within 30 days of the date the Environmental Protection Agency publishes its Notice of Availability of the Final SEIS in the *Federal Register*. The Notice is expected to be published January 9, 2004, and the protest period to close February 8, 2004. If these dates change, the specific protest period closure date will be announced through the Port-Orford-cedar website (address above) and by postcards or letters sent through regular mail, or by e-mail as some people have indicated to us, to the 49 people and agencies who provided public comments and any others who may have only provided scoping comments. To be considered timely, your protest must be postmarked no later than the last day of the protest period. Though not a requirement, we suggest that you send your protest by certified mail, return receipt requested. Written protests must be submitted to the following address:

Director, Bureau of Land Management
Attention: Ms. Brenda Williams, Protests Coordinator
WO-210/LS-1075
Department of the Interior
Washington DC 20240

To expedite delivery in the Washington, DC area, you may wish to send your protest via one of the express air delivery services to:

Director, Bureau of Land Management
Attention: Ms. Brenda Williams, Protests Coordinator
WO-210
1620 L Street NW, Suite 1075
Washington DC 20236

You may wish to send a copy of the protest (in addition to the original sent via regular mail or express delivery) by FAX or e-mail to Ms. Brenda Williams at:

FAX: (202) 452-5112 or e-mail: bhudgens@wo.blm.gov

You are also encouraged (but not required) to forward a copy of your protest to the SEIS Team at the *information contact* address listed on the cover page of the Final SEIS. This may allow us to resolve the protest through clarification of intent or alternative dispute resolution methods. To be considered complete, your protest must contain the following information at a minimum:

1) Name, mailing address, phone number and the affected interest of the person filing the protest.
2) A statement of the issue(s) being protested.
3) A statement of the part(s) of the proposed plan being protested. To the extent possible, reference specific pages, paragraphs, and sections of the document.
4) A copy of all your documents addressing the issue or issues which were discussed with the BLM (IDT) for the record.
5) A concise statement explaining why the proposed decision is believed to be incorrect. This is a critical part of your protest. Document all relevant facts, as much as possible. A protest that merely expresses disagreement with the State Director's proposed decision, without providing any supporting data, will not be considered a valid protest.

For additional information or clarification regarding this document of the planning protest process, please contact Ken Denton at:

Port-Orford-cedar SEIS Team
P.O. Box 2965, Portland, OR 97208
or:
ORPOCEIS@or.blm.gov
or:
(503) 326-2368.

Comments and protests on the Proposed RMP Amendments, including names and street addresses, will be available for public review at the BLM State Office Reading Room, 333 SW 1st Street, Portland, Oregon 8:00 a.m. to 5:00 p.m. Monday through Friday except Federal holidays. Individual respondents may request confidentiality. If you wish to withhold your name or street address from public review or from disclosure under the Freedom of Information Act, you must state this prominently at the beginning of your written comment/protest. Such request will be honored to the extent allowed by law. All submissions from organization and businesses, and from individuals identifying themselves as representatives or officials of organizations or businesses, will be available for public inspection in their entirety.

Sincerely,

KENNETH E. DENTON
SEIS Team Leader
Port-Orford-cedar SEIS Team

Abstract

The Coos Bay, Medford, and Roseburg Bureau of Land Management Districts and the Siskiyou National Forest are proposing to amend their respective land and resource management plans with standards and guidelines for the management of Port-Orford-cedar and the root disease, Phytophthora lateralis. *This final supplemental environmental impact statement considers six alternatives for maintenance of Port-Orford-cedar as an ecologically and economically significant species. Each alternative responds to the Purpose, to the degree such treatments are needed, practical, and cost-effective, of reducing disease introductions, slowing the spread of the disease where present, and/or mitigating the occurrence of the disease. Alternative 1 continues the current direction of implementing available disease-management practices based on site-specific analysis. Alternative 2 uses the same management practices, but places additional emphasis on 162 uninfested 7th field watersheds, and includes a risk key to clarify the environmental conditions that require implementation of site-specific practices. Alternative 3 includes all elements of Alternative 2, and adds additional protections for 31 currently uninfested 6th field watersheds. Alternative 4 removes existing disease management practices, but accelerates the resistant breeding program to provide resistant stock for all areas within 10 years. Alternative 5 removes existing disease management practices, and stops development of resistant seed for remaining undeveloped breeding zones. Alternative 6 includes all elements of Alternative 2, and adds additional protections for 162 currently uninfested 7th field watersheds.*

Major issues include the effectiveness of the proposed management techniques, the extent of negative effects from cedar mortality on other resource uses or values, and the degree of necessity of restricting other forest uses to reduce disease spread. In general, Alternatives 2, 3, and 6 improve conditions for water, fish, wildlife, rare plants, Tribal collections, and plant diversity, and adversely affect recreation access, special forest product collection, timber harvest, fire suppression and fuels management, and costs as compared to the present condition (Alternative 1). The less restrictive Alternatives 4 and 5 have the opposite effect. A major finding of the analysis is that Port-Orford-cedar is not in danger of extirpation under any of the alternatives.

Alternative 2 is the preferred alternative.

Table of Contents

Tables

Figures

Maps

Acronyms/Abbreviations

ACEC ~ Area of Critical Environmental Concern
BLM ~ Bureau of Land Management
CVS ~ Current Vegetation Survey
EA ~ Environmental Assessment
EIS ~ Environmental Impact Statement
FS ~ Forest Service
GIS ~ Geographic (mapping) Information System
LSR ~ Late-Successional Reserve
NF ~ National Forest
NOAA Fisheries ~ National Oceanic & Atmospheric Administration-Fisheries (formerly NMFS-National Marine Fisheries Service)
NRA ~ National Recreation Area
POC ~ Port-Orford-cedar
PL ~ *Phytophthora lateralis*
PSQ ~ Probable Sale Quantity
RNA ~ Research Natural Area
RMP ~ Resource Management Plan
Region 6 ~ Forest Service Region generally covering Oregon and Washington
Region 5 ~ Forest Service Region generally covering California
SEIS ~ Supplemental Environmental Impact Statement
USFWS ~ U.S. Fish & Wildlife Service
U.S. ~ United States

Summary —

Introduction and Need

Port-Orford-cedar (POC) is a unique conifer growing only in Southwestern Oregon and Northwestern California. For a variety of reasons, including its ability to tolerate ultramafic (serpentine) soils and live along streams and other wet sites, it plays a significant ecological role in some forest communities. POC also supplies unique forest products, including wooden arrow stock, wood for Japanese soaking tubs and temples, aromatic storage boxes for American Indian ceremonial materials, and long-lasting cedar boughs. In 1952 an exotic root disease was identified killing the cedar near Coos Bay. Since that time the disease has spread across much of its range, killing POC and threatening to reduce its ecological function and product availability.

The Agencies have a Need for the maintenance of POC as an ecologically and economically significant species on Bureau of Land Management (BLM) and National Forest (NF) lands. Currently, direction in existing land and resource management plans places an emphasis on reducing the spread of POC root disease and maintaining POC through use of a wide variety of management practices, generally applied at the project level following site-specific analysis. This supplemental environmental impact statement (SEIS) examines the environmental consequences of the current direction and five other alternatives.

Why is the Action Being Proposed?

The existing POC management direction was included in Agency land and resource management plans adopted in 1989 and 1995, with little visible analysis regarding how well that direction would work at the range-wide and long-term scales. The direction generally incorporates BLM or references Forest Service (FS) guidelines and policies directing development and application of all practicable management practices to control the spread of the root disease, and to develop disease-resistant trees through a breeding program to help replace trees lost to the disease.

However, in March, 2002 a decision by the U.S. Court of Appeals for the Ninth Circuit found that a BLM project-specific environmental analysis had not adequately considered cumulative effects to the health of POC over its entire range in view of reasonably foreseeable actions of the Agency and others. A follow-up decision by the U.S. District Court of the District of Oregon ruled that the EIS for the Coos Bay District resource management plan was inadequate under the "National Environmental Policy Act" (NEPA) because it did not include an analysis of reasonable foreseeable future timber sales and other actions on the root disease and POC. The Court went on to enjoin timber sale activities and related road building and maintenance in the project area until

> . . . BLM completes adequate analysis of the direct, indirect, and cumulative impacts on *Phytophthora lateralis* and Port-Orford-cedar.

It is important to note that the Court did not necessarily find a deficiency with the current management direction itself, only that the analysis supporting it was inadequate. This SEIS supplies the missing analysis, and presents alternatives to the current direction for analysis as well, in order to provide a context (or range of effects) from which the decision-makers can make an informed choice about the level of disease control needed.

What Would It Mean Not to Meet the Need?

One of two major objectives of the SEIS is to identify and define the ecological and economic role of POC. The ecological role of POC is described in the Affected Environment SEIS sections for botany, water, fisheries, wildlife, and soils. Other SEIS sections cover economically significance with respect to timber harvest, special forest products, recreation, and other areas. The analysis indicates that with a "passive management" alternative (Alternative 5 in the SEIS), root disease progression would lead to stream temperatures above State standards in some ultramafic soil areas, significant mortality for some populations of endangered coho salmon, loss of shade or physical protection for some rare or unique plants growing in POC plant communities, possible loss of rare genes, and POC mortality that would detract from recreation, wilderness, and other values. However, even this alternative would not lead to extirpation of POC or loss of unique genetic variations.

As a result of the analysis, Alternative 5 arguably does not meet the Need. However, ecological and economic significance is a continuum, with no specific level of effects dictating a "yes/no" point. It appears that a fairly wide range of alternatives could meet the Need, although alternatives that are overly restrictive would affect the Agencies' ability to meet other multiple-use objectives. The analysis displays the positive and negative impacts of each alternative, and it will be up to the decision-makers to choose one that meets the Need, and best meets the Purpose of supplying the most cost-efficient balance of positive and negative effects.

What Action is Proposed?

The Agencies propose to amend the land and resource management plans for the Coos Bay, Medford, and Roseburg BLM Districts and the Siskiyou NF by removing the existing direction for management of POC root disease and replacing it with the direction in Alternative 2. Alternative 2 describes all currently available disease-control practices, dividing them between those that should be applied generally and those that may, depending upon site conditions, be applied to specific management activities. For the latter group, a risk key is included to clarify the environmental conditions that require implementation of one or more of the listed disease-controlling management practices. POC stands in the 162 currently uninfested 7th field watersheds are highlighted for protection under the risk key as well. The differences, when compared with the current direction, are a more consistent implementation of available treatments based on the risk key, and an emphasis placed on keeping PL out of currently uninfested 7th field watersheds. Alternative 2 is described in detail in Chapter 2.

Are There Other Alternatives that Would Meet the Need?

Yes. Many comments were received during the scoping phase for this project (February 10 through March 12, 2003), and during the public comment period for the draft SEIS (June 13 through September 12, 2003). Commenters suggested various ideas for meeting the Need, and many of these were incorporated into alternatives considered in detail. Of the six alternatives considered in detail in this SEIS and summarized in Table S-1, several appear to meet the Need.

What are the Effects of the Alternatives?

The major environmental consequences (effects, or impacts) of the six alternatives are discussed in detail in Chapter 3&4 and summarized on Table S-2. A major finding of the analysis is that POC is not in danger of extirpation under any of the alternatives. POC is at significant risk of root disease infection only on high-risk sites. High-risk sites are low-lying wet areas that are located downslope from already infested areas or below likely sites for future introductions, especially roads. They include streams, drainage ditches, gullies, swamps, seeps, ponds, lakes, and concave low-lying areas where water collects during rainy weather. (POC away from such areas, or near streams or bodies of water, but whose roots do not extend below the high watermark for flooding, are at low risk of infection.)

Table S-1.—*Summary of alternatives considered in detail*

Alternative	Project Analysis	Practices to be Applied	Resistance Breeding [1]
1 - Current Direction	Site-specific.	All known disease-control practices, as needed, and resistant seedling planting as available. Includes many not described in Standards and Guidelines.	Current level
2 - Proposed Action/Proposed resource management amendment	Site-specific with risk key to guide analysis and set limits.	All known disease-control practices, as needed, and resistant seedling planting as available. Current practices are all described in Standards and Guidelines. Emphasis added for 162 currently uninfested 7th field watersheds.	Current level
3	Site-specific with risk key to guide analysis and set limits.	All known disease-control practices, as needed, and resistant seedling planting as available. Current practices are all described in Standards and Guidelines. Also identifies 31 currently uninfested 6th field watersheds for further access limitations and no timber harvest in POC stands.	Current level
4	Site-specific only to determine where to use resistant stock.	Only planting of resistant stock where mortality has had the most adverse impact. No disease-control practices.	Accelerated level
5	Site-specific only to determine where to use existing resistant stock.	Only planting of existing resistant stock where mortality has had the most adverse impact. No disease-control practices.	Use existing developed sources only
6	Site-specific with risk key to guide analysis and set limits.	All known disease control practices, as needed, and resistant seedling planting as available. Current practices are all described in Standards and Guidelines. Also identifies 162 currently uninfested 7th field watersheds for further access limitations and no timber harvest in POC stands.	Current level

[1] Current level will develop disease-resistance seed for all breeding zones within 45 years. Accelerated level will develop this same seed within 10 years. Use of existing developed sources only will maintain the existing seed orchard covering 5 of the 19 breeding zones in Oregon, but stop any further field identification of resistant parents and development of additional zones.

Table S-2.—*Summary and comparison of the environmental consequences [effects] of the alternatives*

Resource/topic	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5	Alternative 6
Pathology	57,300 acres [21%] infested in 100 years, 64% of high risk riparian.	51,600 acres [19%] infested in 100 years, 58% of high risk riparian.	45,800 acres [17%] infested in 100 years, 51% of high risk riparian.	80,300 acres [30%] infested in 100 years, 90% of high risk riparian.	80,300 acres [30%] infested in 100 years, 90% of high risk riparian.	44,700 acres [16%] infested in 100 years, 50% in high risk riparian.
Ecology and Plant Associations	Possible losses in species diversity and ecological function in one or more of 64 identified plant associations where POC is a prominent component; more of a concern in ultramafic soils where POC is a component; effect by alternative is proportional to acres infested. Some rare and/or riparian plant associations could suffer substantial POC mortality, thus altering their contributions to stream shading and structure, nutrient cycling, downed wood, and other functions.					
Botany	There are probably benefits to some rare plants proportional to decreased infestation acres because of reduced shading and other protection. Also Alternatives 1, 2, 3, and 6 road closures reduce noxious weed introductions and trampling. However, some rare plants benefit when nearby cedars die. No negative effects to agency sensitive, threatened, or endangered plants are identified.					
Water and Fisheries	Insignificant coho salmon and steelhead loss due to temperature increases. Possible localized mortality of salmonids from Clorox in fire suppression water drops and tanker spills. Road closures benefit water quality and fish; more so in Alternatives 3 and 6.			Increased temperature in ultramafic areas results in significant coho salmon [ESA listed] and steelhead loss. Less than 5% of coho spawn in ultramafic streams, but temperature increases affect other parts of the system.		Same as Alternatives 1-3.
Wildlife	There are no species dependent specifically upon POC, but spotted owl and murrelet are "may affect" because of large-tree losses in habitat. Because pure stands are the exception, other effects are minimal. In Alternatives 3 and 6, late-successional forest-related wildlife benefits from reduced timber harvest, but reduced Late-Successional Reserve thinning could slightly reduce future habitat for these samespecies. Alternatives 1, 2, 3, and 4 possible localized mortality of aquatic species from Clorox fire-suppression spills or water drops.					
Ultramafic Soils	No known difference in effects to soil productivity. Small POC mortality-related effect on soil stability; highest in Alternatives 4 and 5, lowest in Alternatives 3 and 6.					
Pacific Yew	Yew infections will be rare and inconsequential under all alternatives.					
Genetics	POC survival in all alternatives is sufficient to avoid loss of common genes and prevent large scale population divergence. Loss of rare genes possible, not significantly different than natural levels.					
Resistance	Good major gene resistance and early fruiting of POC, plus very limited genetic variability in the pathogen, predicts successful development of durable resistant stock for replanting infested areas					
	Stock available in all breeding zones within 45 years.			Stock available in all breeding zones in 10 years.	Stock limited to current level [26% of breeding zones].	Stock available in all breeding zones within 45 years.
Fire and Fuels	Increased suppression and fuel treatment costs about 2 percent [Alternative 3 and 6 slightly more]. Alternative 3 would reduce access to 51,000 acres and prohibit using timber harvest for fuels treatment on 2,700 acres of wildland-urban interface. Alternative 6 would reduce access to 19,800 acres and prohibit using timber harvest for fuels treatment on 3,240 acres of wildland-urban interface.			No costs associated with POC disease control [possible fuels increase associated with mortality is insignificant].		See Alternatives 1-3.
Air Quality	Air quality effects are unquantifiable and inconsequential under all alternatives.					
Recreation, Visual, Wilderness, and Wild and Scenic Rivers	Negative effects to some users if roads and areas closed; greatest in Alternative 3 and 6. Positive effects to visuals, wilderness, and wild and scenic river values [esthetic] of reduced mortality.			No restrictions on access. Esthetic impacts increased.		See Alternatives 1-3.
	Resistance breeding mitigates esthetic impacts over time, fastest in Alternative 4; not all areas in Alternative 5.					
Areas of Critical Environmental Concern and Research Natural Areas	The risk of an infestation start in the 14 ACECs or RNAs without PL is proportional to the predicted disease spread for each alternative; highest in Alternatives 4 and 5, lowest in Alternatives 3 and6.					
Cultural Products for Tribes	Insignificant difference between alternatives because of modest levels used and access on other lands.					
Special Forest Products	Current level [4% of bough market], plus firewood and other collections.	Current level of bough collection, and <5% reduction of firewood and other collections.	Current level of bough collection, and slightly more reduction in firewood and other collections than Alternative 2.	Increase of bough harvest by 100 to 200 tons annually, plus slight increase in firewood and other collections from current levels.		Slight increase in bough collection. Reduction in firewood and other collections similar to Alternative 3.
Timber Harvest	Continue current cost to purchasers of about $0.80/thousand board feet.			Removal of current $0.80/thousand bd ft mitigation costs.		Continue $0.80/MBF
	No change.	Incalculable reduction in volume offered.	Decrease in PSQ approximately 0.65 million board feet and no thinning in 6,000 Late-Successional Reserve acres.	No effect of PSQ or volume offered.		Decrease in PSQ approximately 0.9 million board feet and no thinning in 9,000 Late-Successional Reserve acres.
Livestock Grazing	Little effect on permit operations.		Could close roads within, but not to, 2 allotments.	No effect on permit operations.		Possible effects on 3 allotments.
Mining	Potential cost increases for PL-reducing practices and possibly restoration.			Possible restoration costs.	Probably no effect.	Same as Alternatives 1-3.
Direct Costs	$860,000	$846,000	$932,000	$477,000	$93,000	993,000
Environmental Justice and Civil Rights	Current level.	Slight job decrease, primarily affecting Asians and Hispanics.	Job decrease includes 7 timber jobs, a few Asian and Hispanic special forest products collectors.	Job increase of 6 related to bough collection.		Job decrease includes 10 timber jobs, a few Asian and Hispanic special forest products collectors.
Critical Elements	Alternatives 1, 2, 3, and 6 could increase energy transmission costs; other effects are included in resource sections above.					
Note: The planning area includes 1.5 million acres of Federal lands and 272,000 acres with some level of POC stocking, a projected 34,400 of which are infested with root disease.						

There are approximately 272,000 acres of Federal land containing POC in Oregon, with about 33 percent on high-risk sites (including 13 percent currently infested). The percent of the area in high-risk sites varies across the range, from 20 percent in the northwest where POC is broadly dispersed across the landscape, to 60 percent inland where POC is more concentrated in riparian areas. The management direction in the various alternatives would affect the percentage of high-risk sites that will become infested by the root disease in the future. According to predictions described in the Pathology section of Chapter 3&4, the percentage of currently uninfested high-risk areas that will become infested in the next 100 years is 40, 30, 20, 80, 80, and 18 percent for Alternatives 1, 2, 3, 4, 5, and 6, respectively. From these projections, the POC acreage, percent in high-risk sites, and existing infestation rate, a prediction of the acres and percent of area expected to be infested in 100 years under each alternative can be made (see Table S-2).

The predicted root disease infestation rates and resultant POC mortality have "indirect" effects to various ecosystem processes and values, and these vary by alternative (see Table S-2). It is important to note that these indirect effects do not all occur at once, but occur over the next 100 years as the disease advances into new areas. There are also "direct" effects from the Standards and Guidelines themselves. Closing roads or prohibiting timber harvest directly affects forest users, timber outputs, and jobs. In general across the range of alternatives, as the negative direct effects increase, the negative indirect effects decrease, and vice versa (Table S-2).

Can Any of the Adverse Effects be Mitigated?

Chapter 2 includes a detailed discussion of possible mitigation measures for each of the potential and likely adverse effects identified in the SEIS (Table 2-5). These are generally not part of all alternatives, but were considered by the SEIS Team and could be added to the selected alternative by the decision-makers if they chose. These mitigations include applying parts of other alternatives, mixing Clorox bleach away from streams, improving risk mapping, limiting access and use in POC areas, making exceptions for certain uses, and others.

A long-term "mitigation" is included within Alternatives 1, 2, 3, 6, and particularly Alternative 4; and already under way is a resistance breeding program. (Alternative 5 would discontinue the current breeding program, but continue to use resistance stock in the 26 percent of the breeding zones for which it has already been developed.) The Agencies expect the resistance breeding program to mitigate at least some of the adverse indirect effects in the long term (generally 100 years and longer), as POC planted to replace some of those killed by the disease gradually become large enough to provide significant ecological benefits. Alternative 4 is scheduled to have seed for all breeding zones within 10 years, while Alternatives 1, 2, 3, and 6 are scheduled to have seed for all zones within 45 years. Although there are long-term uncertainties in any resistance breeding program, the chance for durable resistance in POC is good because it appears to have major gene resistance, the pathogen itself has a very narrow genetic base indicating a low likelihood of it adapting to kill resistant trees, and POC in seed orchard conditions begins to produce cones as early as age 5, which makes a rapid breeding program possible.

The first resistant POC were field planted in the Biscuit Fire area in November 2003. The ability of resistant seedlings to eventually mitigate disease losses will depend on Agency

funding, time, and on where the Agencies use them. Fortunately, every dead tree need not be replaced by direct planting. POC's propensity for seed production at a relatively young age (around 25 in field conditions) means successful plantings of a few dozen resistant trees in an infested area should be sufficient to begin a cycle of natural regeneration of resistant or partially-resistant stock.

What Factors Will be Used in Making the Decision Between Alternatives?

The BLM State Director and the Forest Supervisor for the Rogue River and Siskiyou NFs will decide which alternatives meet the underlying Need for this proposal. They will also weigh how well each of the alternatives meets the Purpose of slowing the spread of the root disease enough to maintain POC's significant ecological and economic functions, without the cost of the management strategy exceeding its effect on the value of these functions. Since the ecological and economic significance of POC is not a yes/no question, but is best represented as relative value points on a continuum, they will balance two types of information so that a cost/benefit decision can be made about each alternative. The two types of information are addressed in the SEIS by responding to the following two issues:

Question 1. What is the ecological and economic significance of POC in the landscape and how is this affected by various levels of POC mortality?

Considerations include:

- The role of POC in stream function and fish habitat;
- the role of POC in terrestrial habitats for listed, rare, or unique plants;
- the role of POC in terrestrial habitats for listed, rare, or unique animals;
- the role of POC for contemporary Tribal uses;
- the role of POC for boughs and specialty woods;
- the role of POC in maintaining and improving soils;
- whether significant genetic resources are at risk of loss; and
- the role of POC in ecosystem function and the maintenance of significant plant associations.

Question 2. What factors affect the spread of the disease, what management techniques can minimize those factors, and what are the costs and benefits of implementing an appropriate mix of disease-reducing management techniques in terms of (a) direct financial costs, (b) maintaining the ecological and economic value of POC itself, and (c) the positive and negative effects to other (non-POC) resource values or uses?

Considerations include:

- Identification of the current management practices and other factors that may spread the root disease, and their relative importance. These include timber harvest, special forest product collection, off-highway vehicle travel and other recreation activity, mining, fire suppression and fuels treatments, domestic livestock grazing, and activities on private lands.

- Identification of management practices that can reduce disease spread, and their relative effectiveness (these are included in the alternatives).

- Identification of forest uses or management needs that will be constrained by implementation of various management practices, either because of cost or because of reduced access (this is the same list as above).

- Identification of forest resources (other than POC) that will also benefit from implementation of various disease-reducing management practices.

Information about these issues and how each is affected by the alternatives is included in the effects discussions in Chapter 3&4.

What Monitoring is Necessary?

Monitoring is specified as part of each of the alternatives (Chapter 2 and Appendix 5). Where applicable to the specific elements of an alternative, this monitoring includes tracking the success of the resistance breeding program, annual program summaries and evaluation reports, tracking *Phytophthora lateralis* (PL) spread and comparing it to projections in the SEIS, and incorporating POC management requirements in all regularly-scheduled project-implementation monitoring. Pathologists will help evaluate the effectiveness of existing root disease control techniques and help develop others. The Agencies will continue to maintain infestation maps and forest inventories to track progress of the disease.

Which Alternative is the Preferred/Proposed Resource Management Plan Amendment?

Based on consideration of the environmental consequences in the final SEIS, Alternative 2 was found to best meet the Purpose and Need, and is the FS Preferred Alternative and the BLM Proposed Resource Management Plan Amendment. The clarification of existing management practices, related monitoring and research, plus the addition of the POC Risk Key and the added emphasis on uninfested 7th field watersheds, provides good long-term control of PL. Predicted effects to "Endangered Species Act"-listed species are reduced from what would result under current direction and are not significant, and the Agencies' ability to consider fuels, forest health, and habitat improvement treatments within the wildland-urban interface and Late-Successional Reserves is retained. Alternative 2 provides the best balance between control and continuation of other forest uses, and therefore best meets the Purpose and Need.